

# AFTER DIET AND EXERCISE: WEIGHT MANAGEMENT OPTIONS

**Adapted from the Weigh to Live Program  
Darnall Army Community Hospital, Fort Hood,  
Texas**

# Product/Service Availability

- At the Pharmacy
  - FDA-approved medications
  - By prescription only
- On the shelf
  - “Possibly effective”
  - Over the counter/herbal products
- In the office
  - Acupuncture
  - Hypnotherapy

# The Ideal Therapy

- Pain-free
- Safe
  - Non-habit forming
  - Free of side effects
- Effective
  - Short-term
  - Long-term
- Easy to acquire
- Affordable

# If it seems too good to be true....

- Study data = ideal world
- Study data = motivated patients
- Study data = good therapy adherence
- Study data = “average” patient
- Question to ask: Would the study have similar results in the “real world?”

# Prescription Medications

(Adjunct to weight loss)

- Used along with with diet and exercise
- BMI  $\geq 30$  kg/m<sup>2</sup>
- BMI  $\geq 27$  kg/m<sup>2</sup> with other conditions
  - High blood pressure
  - High cholesterol
  - Diabetes mellitus Type 2
- DoD prescription policy is stringent

# Prescription Medications (two categories)

- Appetite suppressants
  - Central Nervous System
  - Affect neuro-chemical transmitters
- Lipase Inhibitor
  - Gastrointestinal tract
  - Decreases calories from dietary fat

# Medications Used for Weight Loss

<u>Generic:</u>	<u>Trade:</u>	<u>Mechanism:</u>
*+Sibutramine	Meridia®	Appetite Suppressant
*+Phentermine	Fastin®, Ionamin®	Appetite Suppressant
*+Diethylpropion	Tenuate®	Appetite Suppressant
*Orlistat	Xenical®	Lipase inhibitor
#Bupropion	Wellbutrin®	Unknown
#Fluoxetine	Prozac®	Unknown
*FDA approved for weight loss		+ DEA schedule IV
#FDA approved for depression and other indications		Unknown

# Appetite Suppressants

- Regulate chemicals in the brain
- Can stimulate the central nervous system
  - High blood pressure
  - Dizziness
  - Palpitations
  - Nervousness
  - Sleeplessness
  - Euphoria
- May cause physical/psychological dependence
- Potential for serious drug interactions



# Appetite Suppressants

## Sibutramine (Meridia®)

- Additional adverse effects:
  - Dry mouth
  - Constipation
  - Headache
- Efficacy/Safety
  - Average of 10 lbs more weight loss than placebo
  - 20-30% more likely to lose at least 5% of body weight
  - Rate of serious events as high as 1.5 per 1000

# Appetite Suppressants

Phentermine (Fastin<sup>®</sup>, Ionamin<sup>®</sup>)

- Treatment ranged from 2-24 weeks
- Side effects
  - Increased heart rate, palpitations
  - Increase blood pressure, insomnia
- Average of 8 lbs additional weight loss compared to placebo
- Serious adverse effects as high as 15 per 1000

# Appetite Suppressants

## Diethylpropion (Tenuate®)

- Treatment ranged from 6-52 weeks
- Additional adverse events
  - Dizziness
  - Gastrointestinal upset
  - Rash
- Average of 7 lbs additional weight loss compared to placebo
- Serious adverse effects as high as 15 per 1000

# Lipase Inhibitor

## Orlistat (Xenical®)

- Taken with meals
- Blocks absorption of about 30% of ingested fat
- Side effects made worse by a high fat meal
- Side effects
  - Gas with oily discharge
  - Inability to control bowel movements
  - Fatty, oily stool

# Lipase Inhibitor

## Orlistat (Xenical®)

- Precautions
  - Pancreatitis
  - Active Crohn's disease/ulcerative colitis
  - Gallbladder disease
  - Pregnancy/nursing mothers
- Recommendations
  - Check for possible drug interactions
  - Supplement with with vitamins A,D, E and K

# Lipase Inhibitor

## Orlistat (Xenical®)

### Efficacy/Safety

- 12 month results
  - Average of 6.5 lbs additional weight loss compared to placebo
  - Total weight loss was 18 lbs
- Serious adverse effects as high as 3 per 1000

# Alternative Weight Loss Aids

(Antidepressants)

## Bupropion (Wellbutrin® / Zyban®)

- Side effects
  - Dry mouth, insomnia
  - Diarrhea, constipation
- 6-12 month results
  - Average of 6 lbs additional weight loss compared to placebo
  - Total average weight loss was 10 lbs

# Alternative Weight Loss

## Aids

(Antidepressants)

### Fluoxetine (Prozac®)

- Higher doses than for depression (60mg)
- Side effects
  - Nervousness, sweating, tremors
  - Nausea, vomiting, diarrhea
  - Insomnia, fatigue, drowsiness
- Average of 7 lbs additional weight loss compared to placebo at 12 months



# Complementary and Alternative Medicine

- Evolving practices
  - May not be reimbursed by 3<sup>rd</sup> party insurance
  - Often lack evidence of effectiveness
- Therapies may include
  - Herbal products
  - Food/nutrition plans
  - “Home remedies”

# Complementary and Alternative Medicine

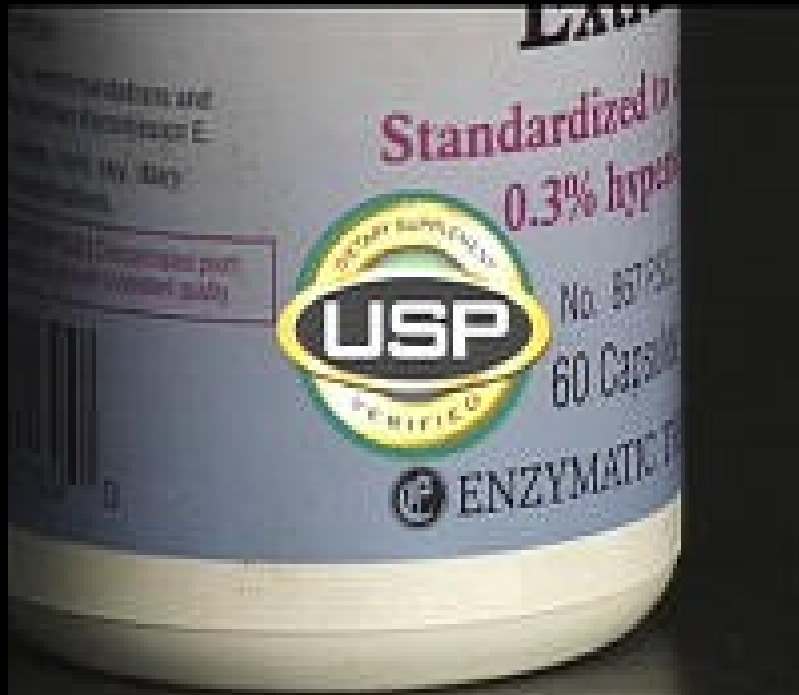
## Practitioners

- Chiropractors
- Acupuncturists
- Naturopaths
- Homeopaths
- Massage therapists
- Hypnotists
- “Dr.” Mom

# “Natural”/Alternative Products

- Natural does NOT necessarily mean safe
- Currently, many herbal products are not evaluated by the FDA
- Claims on the label may not be true
- The USP seal is available for herbal products meeting certain standards

# USP Verification Program



- Voluntary
- Lab inspection
  - Safety guidelines
  - Potency
  - Contaminate-free
  - Dissolution standards
- No FDA involvement
- No efficacy data

# “Natural”/Alternative Products

Multiple theories for effectiveness:

- Nutrient absorption inhibitors
- Thermogenics
- Stimulants
- Thyroid derivative
- Antidepressants

# “Natural”/Alternative Therapies (Ephedrine/Ephedra)

## Adverse effects

Tremor  
Nervousness and  
anxiety  
Palpitations and  
sweating  
Arrhythmias  
Tachycardia  
Heart attack  
Sudden death  
Stroke  
Transient ischemic  
attacks  
Seizures

## Drug interactions

MAOIs  
Stimulants  
Thyroid supplements  
Calcium channel blockers  
Beta blockers  
Antiarrhythmics  
Cardiac glycosides

## Precautions

High blood  
pressure  
Diabetes  
Cardiovascular  
disease  
Hyperthyroidism  
Renal impairment  
Prostate disorders  
Glaucoma

# “Natural”/Alternative Therapies (Stimulants)

- Guarana extract
- Green tea extract
- Synephrine
  - Bitter orange/citrus aurantium
  - Seville orange/sour orange/zhi shi
- Caffeine
- Garcinia (hydroxycitric acid)

# “Natural”/Alternative Therapies (Miscellaneous)

- Chromium picolinate / Vanadium
  - Essential trace mineral
  - Usually only effective in mineral deficiency
  - Toxic in high doses
- St. John's Wort
  - Antidepressant
  - Similar to fluoxetine and sertraline
- For more information on dietary supplements, visit <http://chppm-www.apgea.army.mil/dhpw/Wellness/Dietary.aspx>



# When considering medication, keep in mind:

- Most medications are for short-term use
- Weight loss levels off in 4-6 months
- Weight gain can occur with continued therapy
- Drug dependence can occur in rare cases
- In general, only modestly effective (5-22 pounds)
- Effective medication = loss of at least 4 pounds over 4 weeks

# Acupuncture Today

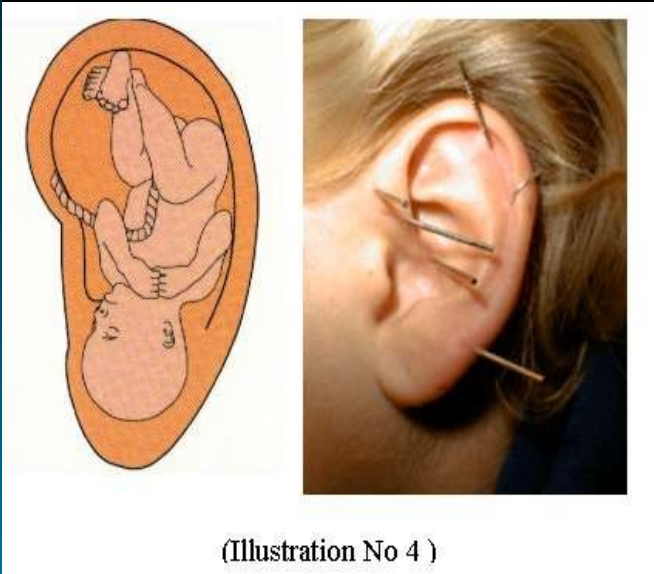
## Educational Requirements:

- 60 hours of undergraduate credit completed for admission
- Course of study: 3-5 years
  - Classroom
  - Clinical rotations

## Licensure:

- National Board Exams

State Board Regulation



(Illustration No 4 )

# Acupuncture in Weight Loss

Review of medical literature

“Failure of acupuncture in the treatment of obesity; a pilot study.”

- 12 weekly sessions
- No effect on obesity or BMI
- Improved anxiety and depression.

Eat Weigh Disord. 1997

# Acupuncture in Weight Loss

Review of medical literature

“Acupuncture/Acupressure for weight reduction? A systematic review.”

- 4 controlled studies
  - Method flaws
  - Conflicting results
- No effect on body weight

Wein Klin Wochenschr 1997

# Acupuncture in Weight Loss

## Review of medical literature

“Acupuncture for the treatment of obesity; a review of the evidence.”

- Primarily auricular (ear)
- Most trials < 12 weeks duration
- Non-standard treatment protocols
- No evidence of efficacy

International Journal of Obesity 2003

# Hypnosis Today



## “Certified Hypnotist”?

- No official certification process
- No regulating body
- Training varies widely
  - 2-day courses
  - 250-245 hour curriculums

# Hypnosis in Weight Loss

## Review of medical literature

Anderson (1985)

- No other intervention
- 8 weekly treatments
- 12 weeks of self hypnosis
- Average weight loss of 20.2 lbs
- Small study group (45) without matched control group

# Hypnosis in Weight Loss

## Review of medical literature

### Problems with weight loss studies

- Patients of varying ages
- Differences in study groups
- Varying time periods
- Multiple interventions (diet, exercise)
- Almost exclusively conducted with women



# Considerations in Hypnosis

## Patient selection characteristics

- High self-control
- Lower initial weight at program start
- Married
- More expressive

## Preferred therapy choices

- Licensed therapist
- Weekly sessions (minimum)
- Long-term follow-up
- Customized for each patient
- No advantage in utilizing audiotapes

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  - Long term
- Easy to acquire
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One size does NOT fit  
all!

# References

Meta-Analysis: Pharmacologic Treatment of Obesity

Website:

<http://www.annals.org/cgi/content/full/142/7/532>

American Academy of Medical Acupuncture

Website: <http://www.medicalacupuncture.org>

NIDDK. Prescription Medications for the Treatment of Obesity.

Website: <http://www.niddk.nih.gov>

Information on content of dietary supplements

Website: <http://www.consumerlab.com>

National Center for Complementary and Alternative Medicine

Website: <http://www.nccam.nih.gov>